Camp Croft UXO Impact Site Clearance

Robotic systems utilized to clear a FUD site.

US Air Force Research Laboratory, Tyndall Air Force Base, Florida

BACKGROUND

The former Camp Croft Training Facility was operated by the U.S. Army from November 1940 to November 1946. The 20,000 acre site is located approximately 5 miles southeast of Spartanburg, South Carolina. Camp Croft was a primary Infantry Replacement Training Center (IRTC) where approximately one-quarter of a million soldiers were trained for active duty in WWII. The site contained numerous live ammunition training ranges with UXO ranging from small arms ammunition to 81mm mortars. The current land usage is divided between Camp Croft State Park, farms, private industry, and residential areas.

SITE DESCRIPTION

Camp Croft contained at least eleven live ammunition training ranges used for small arms ammunition, anti-tank rockets, anti-aircraft artillery, and 60mm and 81mm infantry mortars. Several incidents have occurred where UXO items have been found in the occupied areas of the site including: 50 cal. ammunition, hand grenades, and live mortar rounds.

The US Army Corps of Engineers requested the Air Force Research Laboratory, Robotics Group assistance in clearing a nine-grid area of Ordnance Operable Unit 6 (OOU6) at the former Camp Croft site. This particular site was identified as an impact area containing 60mm & 81mm mortars, 105mm smoke canisters, and M-48 fuses within 8 –12 inches of the surface.

EQUIPMENT UTILIZED

The equipment utilized by AFRL during this ordnance removal operation included:

- Teleoperated Caterpillar 325L Excavator
- Teleoperated Caterpillar D8 Bulldozer
- Teleoperated All-Purpose Remote Transport System (ARTS)
- Norberg ST17 Mobile Screener

FIELD OPERATION

All equipment utilized for this site clearance operation was remotely controlled from a command center 270 ft from the impact site boundary. The operational plan was to use the D8 bulldozer to push the topsoil down to a central collection point. The excavator was then used to put the scraped topsoil into the screener. The screener was equipped with a two-stage screen for objects down to 2.5 in diameter. The clean topsoil was discharged on a conveyor into a dump truck while the oversize items and UXO's fell off the screener to a collection pile. The ARTS was then used to move the UXO's to a safe area for the EOD technicians to dispose of.

RESULTS

Over 150 UXO items were recovered from this impact site including: artillery rounds, fuses, and smoke canisters. By using tele-operated vehicles, the operation clearance time was reduced from an estimated 90 weeks to 12 weeks.

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